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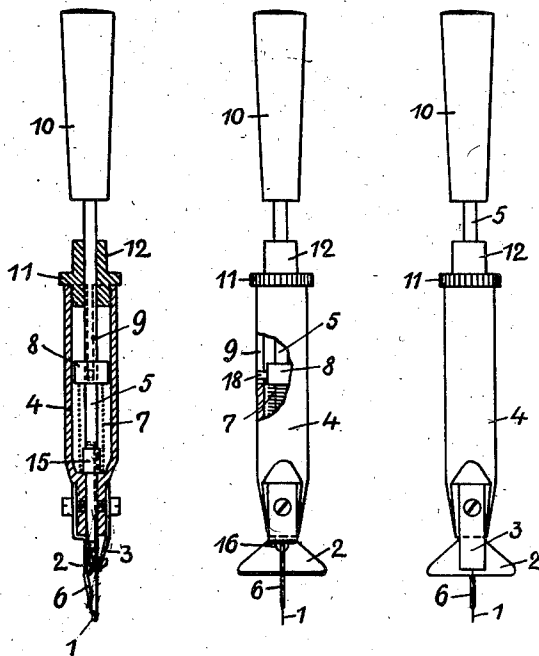
LADDER MENDING DEVICE FOR KNIT GOODS

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Fig.1.

Fig.2..

Fig.3.



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LADDER MENDING DEVICE FOR KNIT GOODS

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8 Claims. (Cl. 66—117)

This invention relates to a device for mending ladders, i. e., picking up meshes in knit goods, particularly stockings.

The invention affords the advantage of providing a small implement of simple design and easy to handle for repairing very fine meshes, as only the head of a spring needle need be passed through the mesh to be repaired.

The invention attains its object by fitting the guiding part of the spring needle with means for pressing the needle and, further, with a knocking over device.

One form of the invention is illustrated in the accompanying drawing, in which Figure 1 is a side view, partly in section, of the mending device; Fig. 2, a front view of the device, with the guide sleeve of the needle partly in section; and Fig. 3, a rear view of the device.

Referring to the drawing.—When a stitch is mended, the spring needle 1 cooperates with the presser member 2 and the knocking over means 3, the spring needle 1 being displaceable in its longitudinal direction relative to the members 3 and 2. To make possible the pressing of the needle point on passing the presser edge into the groove of the needle stem, the free edge of the presser plate 2 is bent so as to form a guiding face directed obliquely to the stem for guiding thereon the point of the hook-shaped portion of the needle when the latter is drawn back. Otherwise, the three parts 1, 2, 3 cooperate in the manner known in knitting frames when a new mesh is formed. With the new mending device it is, however, not necessary to move the needle transversely to the longitudinal direction thereof, that is, in the direction of the presser plate, or to move the latter up to the needle. To make sure that during its return the needle is pressed first and then the previously formed mesh is knocked over the presser plate projects somewhat farther than the knocking over plate 3, as indicated in Fig. 3.

The longitudinal displacement of the needle 1 relative to the members 2 and 3 can be carried out in different ways. In the embodiment shown the needle is longitudinally displaceable in a sleeve-like guide member 4 and for this purpose secured to a holding bar 5, the free end of which carries the handle or push knob 10 whereas the front end thereof is guided in the top of the guide member 4. The bar 5 is further guided by the cover 12 which can be screwed into the rear end of the guide member 4 and possesses a projecting edge 11 to facilitate unscrewing of the

member 12 from the member 4 during disassembling of the mending device.

To one side of the free end of the sleeve-like member 4 the presser bar 2 and to the other side the knocking over plate 3 are secured in any suitable manner, for instance by means of screws.

The needle 1 is removably attached to the holding rod 5 by means of a longitudinal slot of the rod 5, in which the needle stem is inserted, and of a cross bore at the point where the heel of the needle must be held. To secure the needle in the slot a sleeve or a small spring 15 is attached to the holding bar 5 at the point concerned.

The holding bar 5 is further fitted with a guide needle 6 which may have a groove like a narrower for the reception of the head of the needle 1 after removal of the holding bar 5 from the guide member 4. The free end of the guide needle 6 is slightly bent away from the needle stem 1. When introducing the holding bar 5 into the guide member 4 the guide needle 6 must pass through a perforation 16 of the presser plate 2, so that the latter during forward pressure of the holding bar 5 is positioned between the spring needle 1 and the guide needle 6. The point of the needle 6 facilitates proper picking up of the stitch to be mended, as the guide needle indicates at what point during the next depression of the bar 5 the needle 1 will take up a ladder. The arrangement described may be varied in many ways. For example, the guide needle 6 may be secured to the top side of the presser plate 2 or be replaced by an arrow printed on the latter.

To insure easy handling of the device the holding bar 5 is automatically urged into knocking over position by the spring 7. For this purpose one end of the spring 7 is supported by an abutment surface inside the guide member 4 and the rearward end of the spring 7 by an adjusting ring 8. The ring 8 carries a guide pin 18 engaging a groove 9 of the guide member 4 and thus preventing rotation of the bar 5 and of the needle 1 during use of the device, so that the head of the needle 1 can always reliably cooperate with the presser plate 2.

When the mending device is to be used, the guide member 4 is held between the thumb and the middle finger while the forefinger is placed on the free end of the handle 10. By exerting pressure with the forefinger the member 5 is displaced against the action of the spring 7 in such manner that the needle 1 is pressed forward out of the withdrawn position it occupies between the members 2 and 3 when not in use so as to permit

the needle head to enter the stitch to be repaired, the loop of which will then hug the stem 1 and enter the needle head during return of the needle whilst the previously formed mesh which remains at the knocking over plate 3 is landed on the point of the needle 1 when the needle head is pressed against the needle plate 2 and then knocked over.

The broad edge of the presser plate 2 affords the advantage of reliably supporting the device on the fabric to be mended, whereby operation is facilitated.

For depressing the needle a small electric motor may be used. Furthermore, the members 2, 3, 4 can be made integral by sloping the front end of the sleeve-like member 4 so that the farther projecting edge portion thereof serves as presser plate and the more rearwardly disposed one as knocking over means.

I claim:—

1. A device for mending ladders in knit goods, comprising a guide member, a spring needle longitudinally displaceable in said guide member, and needle presser and knocking over means carried by said guide member and cooperating with said spring needle to form a new mesh.

2. A device according to claim 1, wherein the presser means is immovably secured to the guide member and the free edge thereof is bent away from the spring needle to form a guide face extending obliquely to the needle for pressing during return of the needle the point thereof onto the stem.

3. A device according to claim 1, wherein the presser means extends farther away from the

guide member of the spring needle than the knocking over means.

4. A device according to claim 1, comprising a spring for influencing the spring needle and moving it into the guide member after each working stroke to bring the needle head into knocking over position between the presser and knocking over means.

5. A device for mending ladders in knit goods, comprising a guide member, a holding bar longitudinally displaceably arranged in said guide member and forming with its free end a handle for actuating the device, a spring needle removably secured to said holding bar and longitudinally displaceable therewith, and needle presser and knocking over means carried by said guide member and cooperating with said spring needle to form a new mesh.

6. A device according to claim 5, comprising a guide needle attached to the holding bar with the presser means positioned between it and the spring needle.

7. A device according to claim 5, comprising a guide needle attached to the holding bar with the presser means positioned between it and the spring needle and a cover removably secured to the guide member of the spring needle and penetrated by the holding bar to permit after its removal the withdrawal of the holding bar, spring and guide needles from the guide member.

8. A device according to claim 5, comprising means cooperating with the guide member to secure the spring needle against rotation.

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